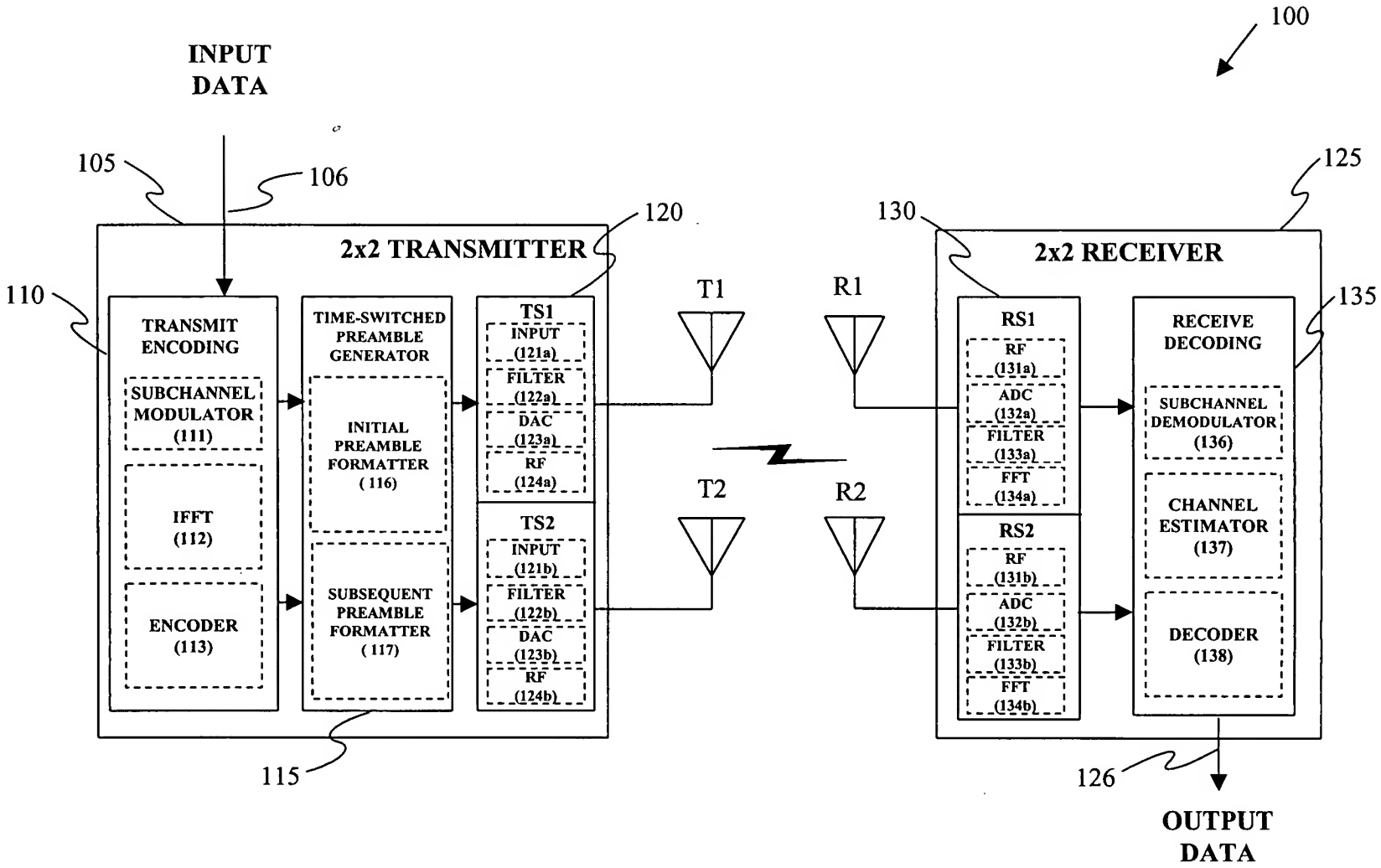
100
INPUT DATA
105
106
120
2x2 TRANSMITTER
110
TRANSMIT ENCODING
SUBCHANNEL MODULATOR (111)
IFFT (112)
ENCODER (113)
TIME-SWITCHED PREAMBLE GENERATOR
INITIAL PREAMBLE FORMATTER (116)
SUBSEQUENT PREAMBLE FORMATTER (117)
TS1
INPUT (121a)
FILTER (122a)
DAC (123a)
RF (124a)
TS2
INPUT (121b)
FILTER (122b)
DAC (123b)
RF (124b)
115
T1
T2
R1
R2
130
125
2x2 RECEIVER
RS1
RF (131a)
ADC (132a)
FILTER (133a)
FFT (134a)
RS2
RF (131b)
ADC (132b)
FILTER (133b)
FFT (134b)
135
RECEIVE DECODING
SUBCHANNEL DEMODULATOR (136)
CHANNEL ESTIMATOR (137)
DECODER (138)
126
OUTPUT DATA

FIGURE 1

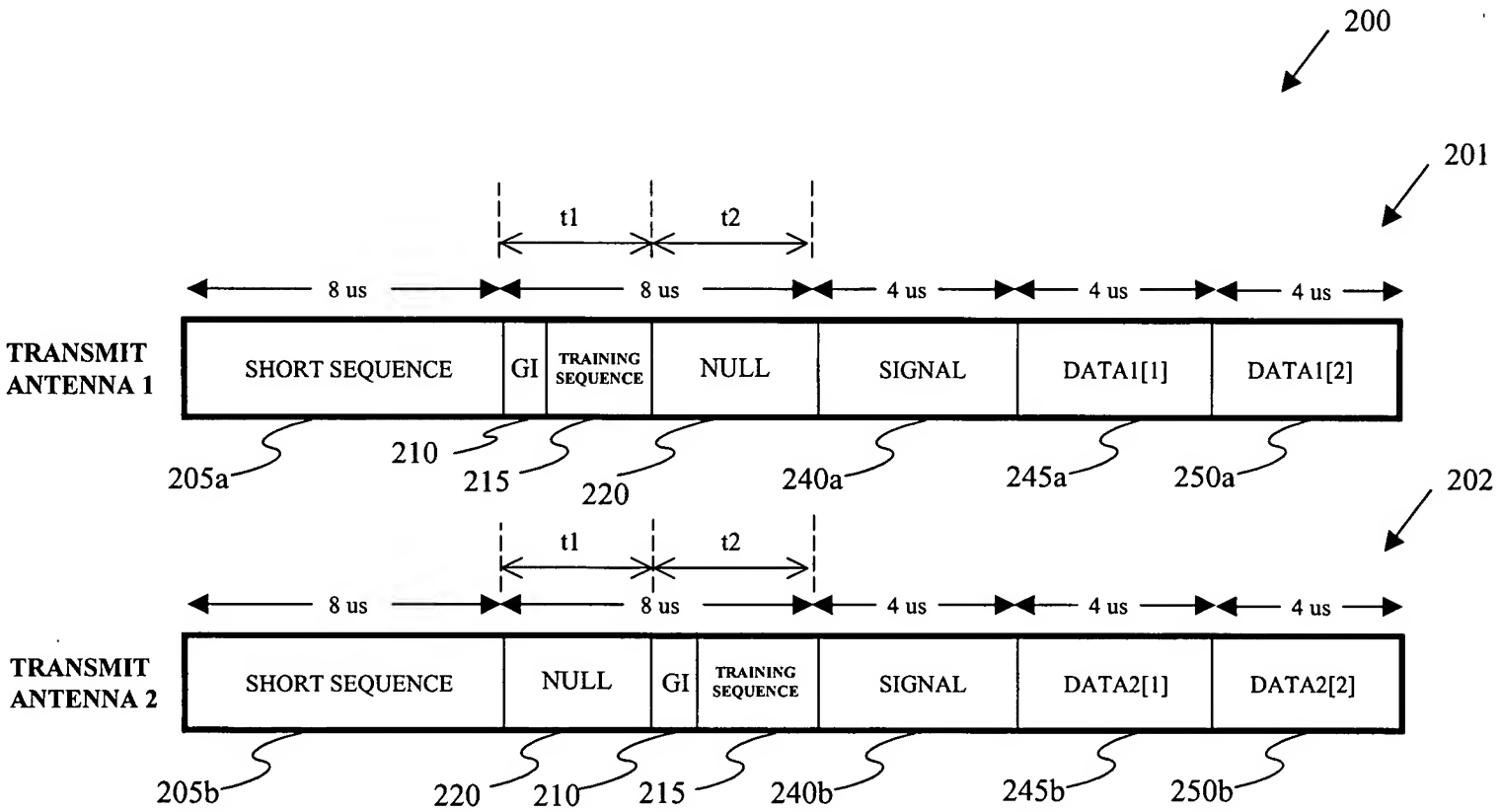
200
201
t1
t2
8 us
8 us
4 us
4 us
4 us
TRANSMIT ANTENNA 1
SHORT SEQUENCE
GI
TRAINING SEQUENCE
NULL
SIGNAL
DATA1[1]
DATA1[2]
205a
210
215
220
240a
245a
250a
202
t1
t2
8 us
8 us
4 us
4 us
4 us
TRANSMIT ANTENNA 2
SHORT SEQUENCE
NULL
GI
TRAINING SEQUENCE
SIGNAL
DATA2[1]
DATA2[2]
205b
220
210
215
240b
245b
250b

FIGURE 2

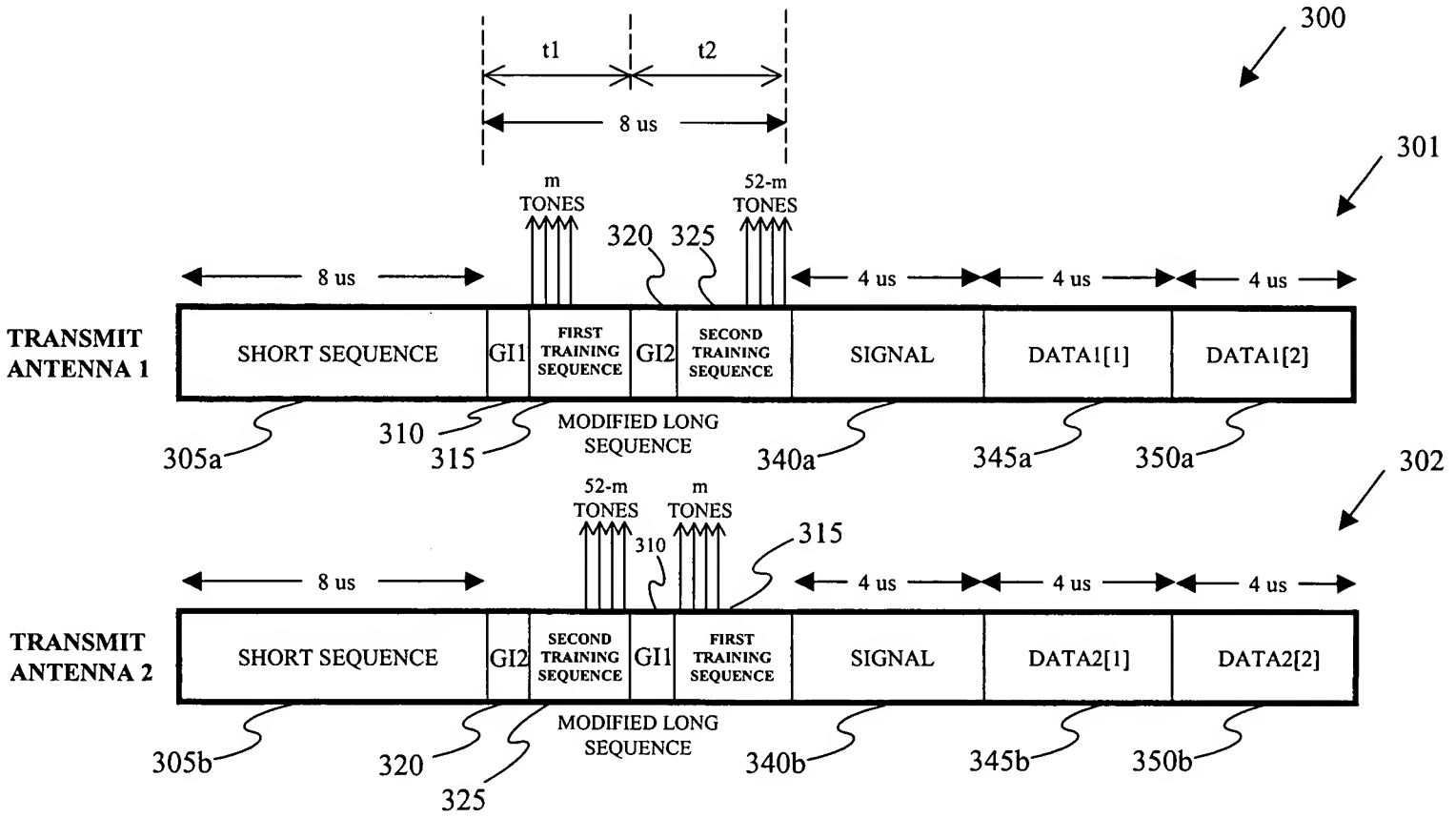
300
t1
t2
8 us
301
m
TONES
52-m
TONES
320
325
8 us
4 us
4 us
4 us
TRANSMIT
ANTENNA 1
SHORT SEQUENCE
GI1
FIRST
TRAINING
SEQUENCE
GI2
SECOND
TRAINING
SEQUENCE
SIGNAL
DATA1[1]
DATA1[2]
305a
310
315
MODIFIED LONG
SEQUENCE
340a
345a
350a
302
52-m
TONES
m
TONES
310
315
8 us
4 us
4 us
4 us
TRANSMIT
ANTENNA 2
SHORT SEQUENCE
GI2
SECOND
TRAINING
SEQUENCE
GI1
FIRST
TRAINING
SEQUENCE
SIGNAL
DATA2[1]
DATA2[2]
305b
320
325
MODIFIED LONG
SEQUENCE
340b
345b
350b

FIGURE 3

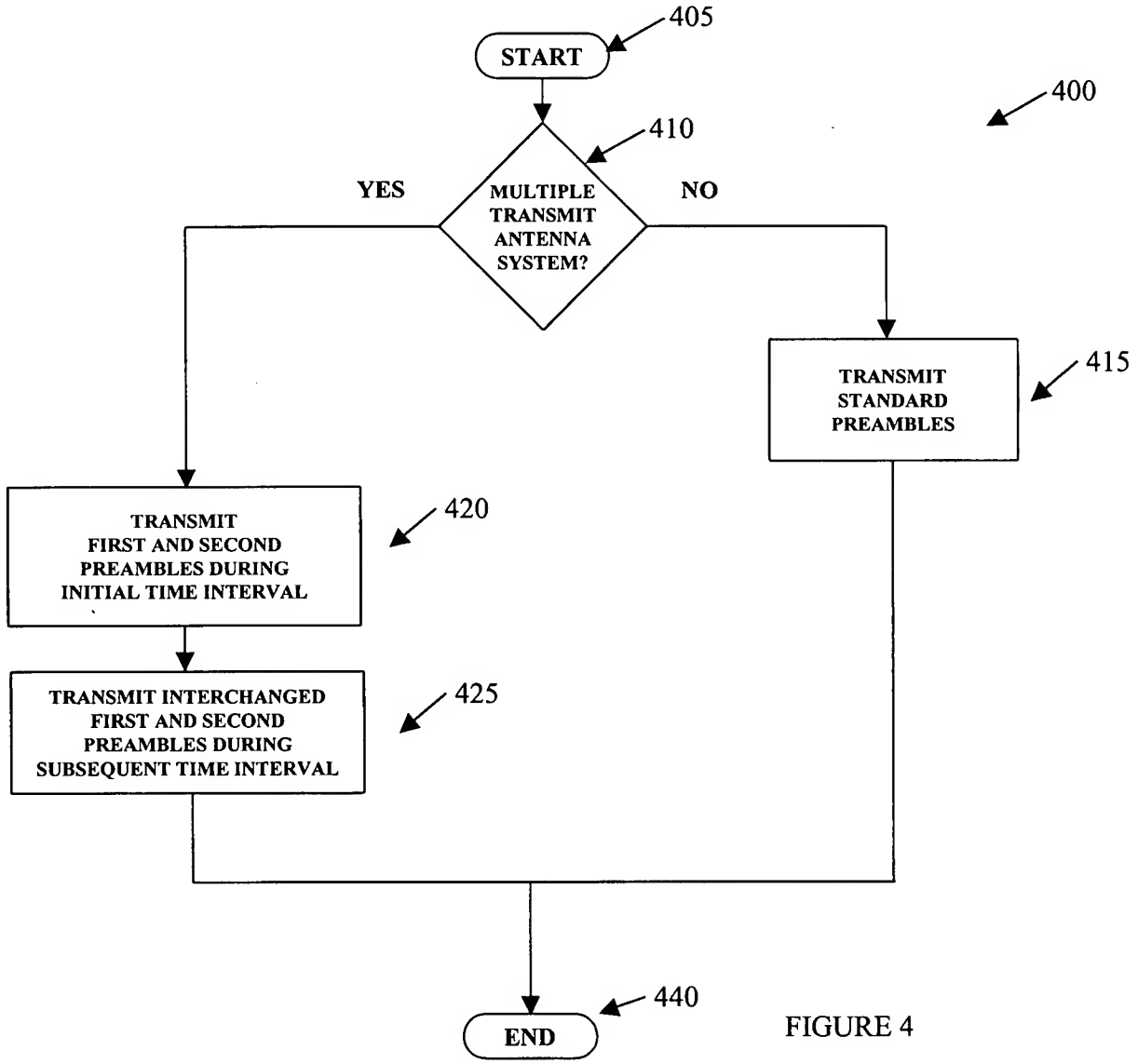
405
START
400
410
YES
MULTIPLE TRANSMIT ANTENNA SYSTEM?
NO
TRANSMIT STANDARD PREAMBLES
415
TRANSMIT FIRST AND SECOND PREAMBLES DURING INITIAL TIME INTERVAL
420
TRANSMIT INTERCHANGED FIRST AND SECOND PREAMBLES DURING SUBSEQUENT TIME INTERVAL
425
440
END

FIGURE 4